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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B65D 30/20 — A1

(11) International Publication Number: WO 98/13272

(43) International Publication Date: 2 April 1998 (02.04.98)

(21) International Application Number: PCT/JP97/03362

(22) International Filing Date: 22 September 1997 (22.09.97)

(30) Priority Data:
8/277343 27 September 1996 (27.09.96) JP

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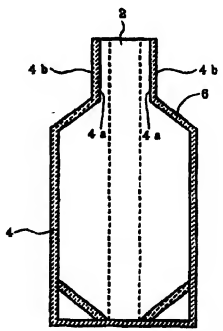
(81) Designated States: CN, ID, US, VN, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: GUSSETED BAG

(57) Abstract

A gusseted bag (1A) has inward–folded V–shaped folds at its opposing both sidewalls (3) of the bag and has sealed portions (4) at vertical edges of the upper part of the bag. At this upper part of the bag, the distance between inside contours (4a) of the sealed portions set opposite one another in the horizontal direction is narrowed with respect to the body of the bag to form a non–sealed portion serving as a pour spout (2), and outside contours (4b) of the sealed portions forming the pour spout (2) form an outer shape narrowed with respect to the body of the bag. The pour spout (2) may be positioned eccentrically toward one side of the sidewalls. Thus, it becomes possible to rebottle the contents with ease and for sure even into narrow–necked bottle containers.



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DESCRIPTION

Gusseted Bag

TECHNICAL FIELD

This invention relates to a gusseted bag useful as a rebottling container.

BACKGROUND ART

In recent years, to cope with problems on trash which are caused by disposal of plastic bottles, it has become popular to take the form of distribution that contents are sold by putting them into rebottling containers such as standing pouches or gusseted bags and consumers rebottle the contents into bottle containers to put them into use.

Fig. 20 is a front view of a gusseted bag 1x commonly used as a rebottling container, which is not filled with a content and stands folded flat with its top opening 2x sealed. Fig. 21 is a perspective view of this gusseted bag 1x, which stands sealed at its opening 2x after the gusseted bag 1x has been filled with contents from its top opening 2x.

Fig. 22 is a front view of a gusseted bag 1y also known as a rebottling container, which is not filled with contents and stands folded flat with its pour spout 2 unsealed. Fig. 23 is a perspective view of this gusseted

bag 1y, which stands sealed at its pour spout 2 after the gusseted bag 1x has been filled with contents. Fig. 24 is a perspective view of the vicinity of the pour spout 2 in an instance where the gusseted bag 1y is opened by cutting off its upper part along a broken line L.

As shown in these drawings, the gusseted bags 1x and 1y are bag-like containers having inward-folded V-shaped folds at their opposing both sidewalls 3, and these V-shaped folds at the both sidewalls are greatly characteristic of the gusseted bags in contrast with the standing pouches.

When a consumer makes use of the contents with which the Fig. 21 gusseted bag 1x is filled, the consumer cuts off a sealed portion 4 at the top of the bag at any desired position, using scissors or the like, and rebottles the container into a certain bottle container.

In the case of the gusseted bag 1y shown in Figs. 22 to 24, it has the sealed portion 4 also at the vertical edges of the bag, and the distance between inside contours 4a of sealed portions 4 set opposite one another in the horizontal direction is narrowed toward the upper part with respect to the body of the bag, thus the unsealed portion positioned between these opposing inside contours 4a serves as the pour spout 2. Accordingly, when a consumer makes use of the contents with which the gusseted bag 1y is filled, the consumer cuts off the upper part of

the gusseted bag 1y filled with the contents, along a broken line L using scissors or the like to open the pour spout 2 as shown in Fig. 24, and rebottles the container into a certain bottle container.

However, no pour spout is formed in the conventional gusseted bag 1x shown in Fig. 21, and hence it is difficult for the consumer to rebottle the contents into a bottle container, where problems have occurred such that the contents spill or are scattered around.

In the gusseted bag 1y shown in Fig. 23, the pour spout 2 is formed, but the sealed portions 4 around the pour spout 2 still remain as extensions of the sealed portions at the vertical edges of the body of the bag. Hence, when the contents are rebottled into a narrow-necked bottle container, the pour spout 2 of the gusseted bag 1y can not be inserted into the mouth of such a bottle container to cause the problems that the contents spill or are scattered around.

The present invention aims at solving the problems in the prior art as stated above. Accordingly, an object of the present invention is to provide a gusseted bag from which the contents can be rebottled with ease and for sure even into narrow-necked bottle containers.

DISCLOSURE OF THE INVENTION

To achieve the above object, the present inventors

provide a gusseted bag comprising a bag having i) inward-folded V-shaped folds at its opposing both sidewalls and ii) sealed portions at vertical edges of the upper part of the bag; wherein, at the upper part of the bag, the distance between inside contours of the sealed portions set opposite one another in the horizontal direction is narrowed with respect to the body of the bag to form a non-sealed portion serving as a pour spout, and outside contours of the sealed portions forming the pour spout form an outer shape narrowed with respect to the body of the bag.

In particular, in this gusseted bag, an embodiment is provided in which the pour spout is positioned eccentrically toward one side of the sidewalls, and an embodiment in which the bag has, at a wall surface portion forming the pour spout, a ruled line so formed that the wall surface portion is foldable outward.

According to the gusseted bag of the present invention, the outside contours of the sealed portions forming the pour spout form an outer shape narrowed with respect to the body of the bag. Hence, when the contents of the gusseted bag are rebottled into a certain container, the contents can be rebottled by inserting the pour spout of the gusseted bag into the mouth of the container even if the container is a narrow-necked bottle container. Accordingly, the contents can be prevented from splitting

or being scattered around, and the rebottling can be operated with ease.

In particular, in the gusseted bag of the present invention, according to the embodiment in which the pour spout is positioned eccentrically toward one side of the sidewalls and the embodiment in which the bag has, at a wall surface portion forming the pour spout, a ruled line so formed that the wall surface portion is foldable outward, the pour spout can be readily opened even if it has a narrow neck, and hence the contents can be more easily rebottled from the gusseted bag to the bottle container.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front view of the gusseted bag of the present invention, which stands folded flat.

Fig. 2 is a perspective view of the gusseted bag of the present invention, which stands sealed at its pour spout after it has been filled with contents.

Fig. 3 is a perspective view of the vicinity of the pour spout in the gusseted bag of the present invention.

Fig. 4 illustrates how the contents are rebottled from the gusseted bag of the present invention into a bottle container.

Figs. 5A to 5D illustrate how to form the sealed portions around the pour spout in the gusseted bag of the

present invention.

Fig. 6 is a front view of the gusseted bag of the present invention, which stands folded flat.

Fig. 7 is a perspective view of the gusseted bag of the present invention, which stands sealed at its pour spout after it has been filled with contents.

Figs. 8A to 8D illustrate the gusseted bag of the present invention, having a pour spout eccentrically positioned; Fig. 8A is a plan view of the gusseted bag standing folded flat, and Figs. 8B to 8D are top views of the pour spout.

Fig. 9 is a perspective view of the gusseted bag of the present invention, having the pour spout eccentrically positioned.

Figs. 10A to 10C illustrate the gusseted bag of the present invention, having a pour spout eccentrically positioned; Fig. 10A is a plan view of the gusseted bag standing folded flat, and Figs. 10B and 10C are top views of the pour spout.

Figs. 11A to 11C illustrate the gusseted bag of the present invention, having a pour spout eccentrically positioned; Fig. 11A is a plan view of the gusseted bag standing folded flat, and Figs. 11B and 11C are top views of the pour spout.

Figs. 12A to 12C illustrate the gusseted bag of the present invention, having a pour spout eccentrically

positioned; Fig. 12A is a plan view of the gusseted bag standing folded flat, and Figs. 12B and 12C are top views of the pour spout.

Figs. 13A to 13C illustrate the gusseted bag of the present invention, having a pour spout eccentrically positioned; Fig. 13A is a plan view of the gusseted bag standing folded flat, and Figs. 13B and 13C are top views of the pour spout.

Fig. 14 is a plan view of the gusseted bag of the present invention, having no sealed portions at the vertical edges of the body of the bag, which stands folded flat.

Fig. 15 is a perspective view of the gusseted bag of the present invention, having no sealed portions at the vertical edges of the body of the bag, which stands sealed at its pour spout after it has been filled with contents.

Fig. 16 is a plan view of the gusseted bag of the present invention, having no sealed portions at the vertical edges of the body of the bag and having a pour spout eccentrically positioned, which stands folded flat.

Fig. 17 is a perspective view of the gusseted bag of the present invention, having no sealed portions at the vertical edges of the body of the bag and having a pour spout eccentrically positioned.

Figs. 18A and 18B illustrate the gusseted bag of the present invention, having a ruled line at the pour spout;

Fig. 18A is a perspective view of the vicinity of the pour spout, and Fig. 18B is a top view of the pour spout.

Fig. 19 is a perspective view of the gusseted bag of the present invention, having a pour spout whose top edges are cut in an inverted V.

Fig. 20 is a front view of a conventional gusseted bag, which stands folded flat.

Fig. 21 is a perspective view of a conventional gusseted bag, which stands sealed after it has been filled with contents.

Fig. 22 is a front view of a conventional gusseted bag, which stands folded flat.

Fig. 23 is a perspective view of a conventional gusseted bag, which stands sealed at its pour spout after it has been filled with contents.

Fig. 24 is a perspective view of the vicinity of the pour spout in the conventional gusseted bag.

BEST MODE FOR CARRYING OUT THE INVENTION

The present invention will be described below in detail with reference to the drawings. In the drawings, like reference numerals denote like or equivalent constituents.

Fig. 1 is a front view of a gusseted bag 1A of the present invention, which is not filled with contents and stands folded flat with its pour spout 2 unsealed. Fig. 2

is a perspective view of this gusseted bag 1A, which stands sealed at its pour spout 2 after it has been filled with contents. Fig. 3 is a perspective view of the vicinity of the pour spout 2 in an instance where the upper part of the gusseted bag 1A shown in Fig. 2 is cut off along a broken line L to open the bag.

As shown in these drawings, the gusseted bag 1A is, like the conventional gusseted bag 1y shown in Figs. 22 to 24, a bag-like container having the inward-folded V-shaped folds at their opposing both sidewalls 3, and sealed portions 4 formed at vertical edges of the bag. In Fig. 1, broken lines show innermost ends of the V-shaped folds. At the upper part of the gusseted bag 1A, the distance between inside contours 4a of the sealed portions 4 set opposite one another is narrowed with respect to the body of the bag, and a non-sealed portion formed between them serves as the pour spout 2. However, in the gusseted bag 1A shown in Figs. 1 to 3, outside contours 4b of the sealed portions 4 forming the pour spout 2 are cut out along the inside contours 4a so that the sealed portions has an outer shape narrowed with respect to the body of the bag.

Thus, as shown in Fig. 4, when the contents with which the gusseted bag 1A is filled are rebottled into a narrow-necked bottle container 30, it becomes possible to insert the pour spout 2 of the gusseted bag 1A into the

mouth 31 of the bottle container 30. Accordingly, it becomes possible to rebottle the contents with ease and for sure without causing split or scatter of contents.

As methods for forming the sealed portions 4 at the pour spout 2 of this gusseted bag 1A, they may be formed by cutting out the outside contours 4b of the sealed portions 4 so as to form the outer shape as shown in Fig. 1, before the bag is filled with contents. Alternatively, as shown in Figs. 5A to 5D, the outside contours 4b of the sealed portions 4 may be cut out after the bag has been filled with contents. More specifically, as shown in Fig. 5A, first the bottom and sidewall vertical edges of a sheet material used to form the bag are bonded by heat fusion or with an adhesive to form the sealed portions 4, thus a bag member having a widely open top is formed. Next, after the bag member is filled with contents, the surrounding of the pour spout 2 may be sealed and also the outside contours 4b may be cut out at the sealed portions (Fig. 5B).

After the narrowed outer shape of the sealed portions 4 around the pour spout 2 is formed by cutting out the outside contours 4b, the top edge of the pour spout 2 is further bent as shown in Fig. 5C to provisionally fix the vicinity of the pour spout 2 to the wall surface 5 of the body of the bag by the use of a hot melt or a tack seal so that the bag can have a form suited for its distribution.

When a consumer makes use of the contents with which the gusseted bag 1A is filled, the consumer unfastens the provisional fixture and cuts off with scissors or the like the top edge of the pour spout 2 having been sealed, to open the pour spout 2 as shown in Fig. 5D.

In addition to the foregoing gusseted bag 1A shown in Figs. 1 to 4, the present invention can have various embodiments so long as the outside contours at the sealed portions forming the pour spout 2 form the outer shape narrowed with respect to the body of the bag.

For example, in the gusseted bag 1A shown in Figs. 1 to 4, the outside contours 4b extend along the inside contours 4a not only at the sealed portions 4 forming the pour spout 2 but also at the sealed portions 4 forming shoulders 6 of the bag. However, in the present invention, the outside contours 4b of the sealed portions 4 need not necessarily be made to extend along the inside contours 4a from the shoulders 6 of the bag to the pour spout 2. For example, as in the case of a gusseted bag 1B shown in Fig. 6 and as shown in Fig. 7 illustrating the gusseted bag 1B, which stands sealed at its pour spout 2 after it has been filled with contents, the outside contours 4b need not extend along the inside contours 4a at the shoulders 6 and may form wide sealed portions, so long as the outside contours 4b at the sealed portions 4 forming the pour spout 2 of the gusseted bag 1B are formed so as to be

narrowed along the inside contours 4a.

Figs. 8A to 8D are views of a gusseted bag 1C of the present invention according to still another embodiment, i.e., a plan view of the gusseted bag standing folded flat (Fig. 8A) and top views of the pour spout 2 (Figs. 8B to 8D).

In this gusseted bag 1C, an inside contour $4a_p$ on the side of a sidewall 3_p of the sealed portions 4 forming the pour spout 2 is formed between an innermost end 3_{pv} of the V-shaped fold in the sidewall 3_p and a sealed portion 4_{3p} of the vertical edge on the sidewall 3_p , and an inside contour $4a_q$ on the other side of the sealed portions 4 forming the pour spout 2 is formed between innermost ends 3_{pv} and 3_{qv} of the V-shaped folds in the both sidewalls 3_p and 3_q, respectively, thus the pour spout 2 is positioned eccentrically toward the one side, sidewall 3_p side.

Hence, when the pour spout 2 is pulled out toward the one side in the direction of an arrow, sidewall 3_p side as shown in Fig. 8B, a large opening can be formed as shown in Fig. 8C. Also, when as shown in Figs. 8D and 9 the wall surface of the pour spout 2 is bent in the direction opposite to the initial fold direction, this pour spout 2 can be kept open stably and widely. Accordingly, it becomes possible to more easily rebottle the contents. For further details, two sealed portions 4_{3q} of the vertical edge on the sidewall 3_q unify at the point U

between the sealed portion 4 forming the pour spout 2 and the sealed portions 4_{3q} of the body of the bag as shown in Figs. 8A and 9.

In the gusseted bag of the present invention, it can have still other various embodiments as embodiments in which the pour spout 2 is formed at an eccentric position.

For example, in a gusseted bag 1D shown in Fig. 10A, the inside contour $4a_p$ on the side of the sidewall 3_p of the sealed portions 4 forming the pour spout 2 is formed between the innermost end 3_{pv} of the V-shaped fold in the one side sidewall 3_p and the sealed portion 4_{3p} of the vertical edge on the sidewall 3_p, and the inside contour $4a_q$ on the other side of the sealed portions 4 forming the pour spout 2 is formed in agreement with the innermost end 3_{qv} of the V-shaped fold in the sidewall 3_q located on the other side. Hence, when the pour spout 2 is pulled out in the direction of an arrow as shown in Fig. 10B, a larger opening than that of the gusseted bag 1C shown in Fig. 9 can be formed (Fig. 10C).

As in the case of a gusseted bag 1E shown in Fig. 11A, the inside contour $4a_p$ on the side of the sidewall 3_p on one side of the sealed portions 4 forming the pour spout 2 is formed so as to be in agreement with the inside contour of the sealed portion 4_{3p} of the vertical edge on the sidewall 3_p , and the inside contour $4a_q$ on the other side of the sealed portions 4 forming the pour spout 2 is

formed between innermost ends 3_{pv} and 3_{qv} of the V-shaped folds in the both sidewalls 3_p and 3_q , respectively, thus the pour spout 2 can be more largely opened as shown in Figs. 11B and 11C.

In an embodiment in which, like the gusseted bag 1E shown in Fig. 11A, the inside contour $4a_p$ on the side of the sidewall 3_p of the sealed portions 4 forming the pour spout 2 is formed so as to be in agreement with the inside contour of the sealed portion 4_{3p} of the vertical edge on the sidewall 3_p, the inside contour $4a_q$ on the other side of the sealed portions forming the pour spout 2 may be formed in agreement with the innermost end 3_{qv} of the V-shaped folds in the sidewall 3_q located on the other side as in the case of a gusseted bag 1F shown in Fig. 12A. Thus, the pour spout 2 can be still more largely opened as shown in Figs. 12B and 12C. Also, as in the case of a gusseted bag 1G shown in Fig. 13A, the inside contour $4a_q$ on the side of the sidewall 3_q of the sealed portions forming the pour spout 2 may be formed between the innermost end 3_{qv} of the V-shaped folds in the sidewall 3_q and the sealed portion 4_{3q} of the vertical edge on the sidewall 3_q. Thus, the pour spout 2 can be still more largely opened as shown in Figs. 13B and 13C.

Eccentrically positioning the pour spout 2 in this way makes it possible to greatly change the size of the opening of the pour spout 2. How far the pour spout 2 is

eccentrically positioned may be determined according to the type of contents, the shape of the bottle container to which the contents are rebottled, the materials for the gusseted bag, and so forth.

In the embodiments of the present invention as illustrated in the above drawings, the bag is sealed at not only the upper part but also the body of the bag. The present invention is by no means limited to this. For example, the gusseted bag 1A shown in Figs. 1 and 2 may be modified into a gusseted bag 1H shown in Fig. 14 as a front view and in Fig. 15 as a schematic view, in which the sealed portions 4 are formed at the vertical edges of the upper part of the bag but no sealed portion 4 is formed at the vertical edges of the body of the bag. Also, the gusseted bag 1A shown in Figs. 8A and 9 may be modified into a gusseted bag 1I shown in Fig. 16 as a front view and in Fig. 17 as a schematic view, in which the sealed portions 4 are formed at the vertical edges of the upper part of the bag and also the pour spout 2 is eccentrically positioned, but no sealed portion 4 is formed at the vertical edges of the body of the bag.

In the gusseted bag of the present invention, a ruled line 10 so formed that the wall surface portion is foldable outward may be provided at the bag wall surface portion forming the pour spout 2, as shown in Fig. 18A as a perspective view of the vicinity of the pour spout and

in Fig. 18B as a top view of the pour spout. This also makes it easy to open the pour spout 2.

As shown in Fig. 19, in order to make it easy to open the pour spout 2, top edges 11 of the bag wall surface portion forming the pour spout 2 may be cut in an inverted V. For this purpose, a cut-off guide line or the like in the form of an inverted V may be, e.g., printed at the top edge of the pour spout 2 so that it can be readily cut off in an inverted V when the consumer opens the sealed pour spout 2.

There are no particular limitations on the contents with which the gusseted bag of the present invention is filled. They may include powdery or liquid materials such as detergents and bleachers.

INDUSTRIAL APPLICABILITY

According to the gusseted bag of the present invention, it becomes possible to rebottle the contents with ease and for sure even into narrow-necked bottle containers.

CLAIMS

1. A gusseted bag comprising a bag having i) inward-folded V-shaped folds at its opposing both sidewalls and ii) sealed portions at vertical edges of the upper part of the bag; wherein, at the upper part of the bag, the distance between inside contours of the sealed portions set opposite one another in the horizontal direction is narrowed with respect to the body of the bag to form a non-sealed portion serving as a pour spout, and outside contours of the sealed portions forming the pour spout form an outer shape narrowed with respect to the body of the bag.

2. The gusseted bag according to claim 1, wherein the pour spout is positioned eccentrically toward one side of the sidewalls.

3. The gusseted bag according to claim 2, wherein an inside contour on one side of the sealed portions forming the pour spout is formed between an innermost end of the V-shaped fold in the sidewall on one side and the vertical edge on the sidewall at the body of the bag, and an inside contour on the other side of the sealed portions forming the pour spout is formed between innermost ends of the V-shaped folds in the both sidewalls.

4. The gusseted bag according to claim 2, wherein an inside contour on one side of the sealed portions forming the pour spout is formed between an innermost end of the V-shaped fold in the sidewall on one side and the vertical edge on the sidewall at the body of the bag, and an inside contour on the other side of the sealed portions forming the pour spout is formed in agreement with an innermost end of the V-shaped fold in the sidewall located on the other side.

5. The gusseted bag according to claim 2, wherein an inside contour on one side of the sealed portions forming the pour spout is formed in agreement with the inside contour of the sealed portion of the vertical edge on the sidewall at the body of the bag, and an inside contour on the other side of the sealed portions forming the pour spout is formed between innermost ends of the V-shaped folds in the both sidewalls.

6. The gusseted bag according to claim 2, wherein an inside contour on one side of the sealed portions forming the pour spout is formed in agreement with the inside contour of the sealed portion of the vertical edge on the sidewall at the body of the bag, and an inside contour on the other side of the sealed portions forming the pour

spout is formed in agreement with an innermost end of the V-shaped fold in the sidewall located on the other side.

7. The gusseted bag according to claim 2, wherein an inside contour on one side of the sealed portions forming the pour spout is formed in agreement with the inside contour of the sealed portion of the vertical edge on the sidewall at the body of the bag, and an inside contour on the other side of the sealed portions forming the pour spout is formed between an innermost end of the V-shaped fold in the sidewall located on the other side and the vertical edge on the sidewall on that side at the body of the bag.

8. The gusseted bag according to claim 1, wherein the bag has, at a wall surface portion forming the pour spout, a ruled line so formed that the wall surface portion is foldable outward.

9. The gusseted bag according to claim 1, wherein top edge of the bag wall surface portion forming the pour spout is cut in an inverted V.

FIG. 1

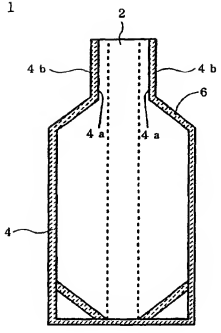


FIG. 2

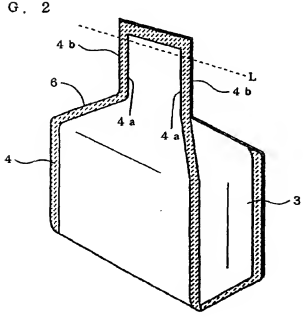


FIG. 3

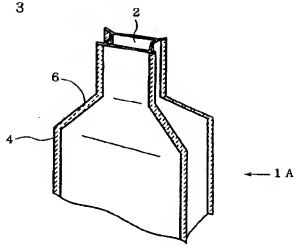


FIG. 4

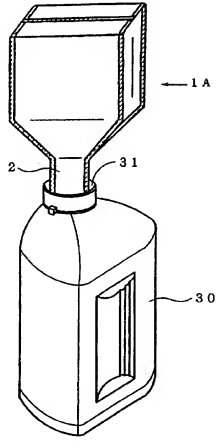


FIG. 5A

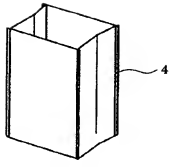


FIG. 5B

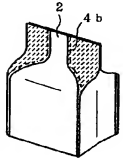


FIG. 5C

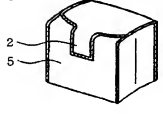


FIG. 5D

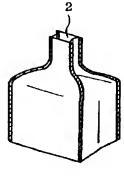


FIG. 6

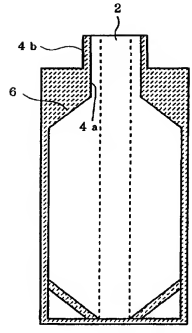


FIG. 7

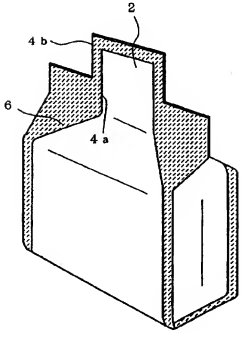


FIG. 8A

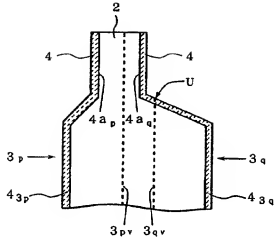


FIG. 8B

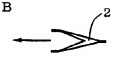


FIG. 8C

FIG. 8D

FIG. 9

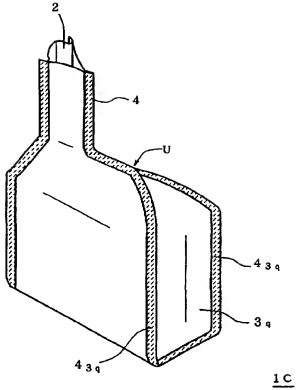


FIG. 10A

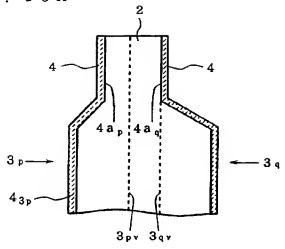


FIG. 10B

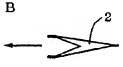
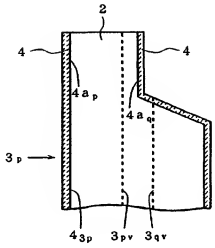


FIG. 10C

FIG. 11A

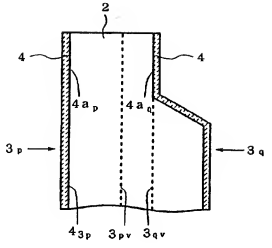


1E

FIG. 11B

FIG. 11C

FIG. 12A



1F

FIG. 12B

FIG. 12C

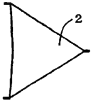
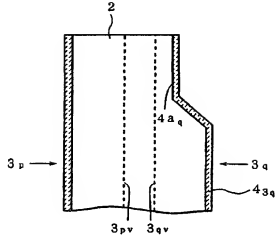


FIG. 13A



1G

FIG. 13B

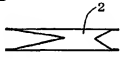


FIG. 13C

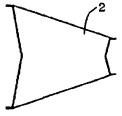
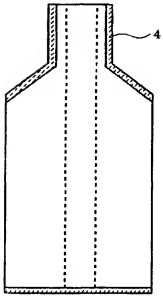
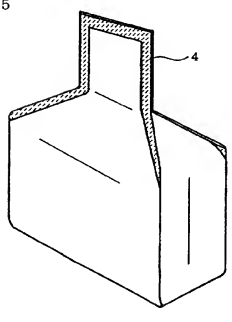


FIG. 14



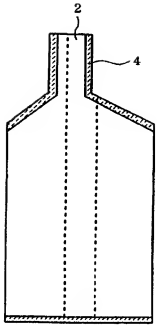
1H

FIG. 15



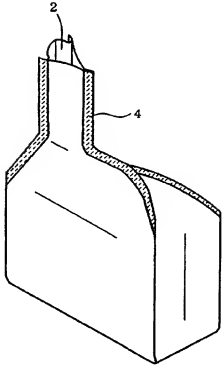
1H

FIG. 16



11

FIG. 17



11

FIG. 18A

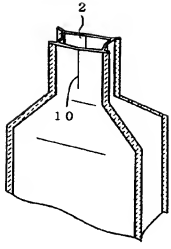


FIG. 18B

FIG. 19

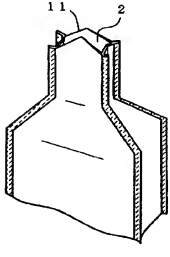


FIG. 20

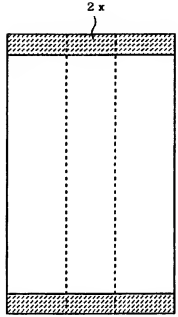


FIG. 21

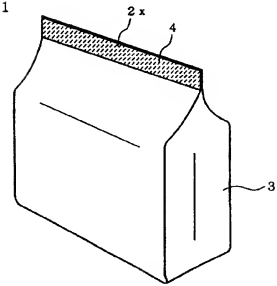


FIG. 22

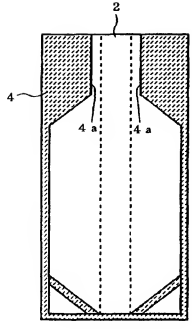


FIG. 23

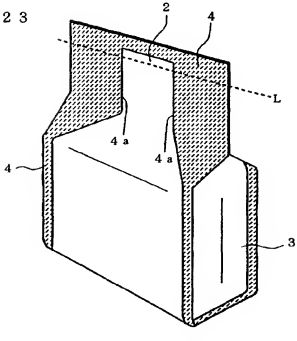


FIG. 24